

# PATENT COOPERATION TREATY

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INTERNATIONAL SEARCHING AUTHORITY

To:  
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04/11

## PCT

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

Date of mailing (day/month/year) <span style="float: right; font-size: 1.2em;">22-09-2004</span>	
Applicant's or agent's file reference TP102920-JMA	<b>FOR FURTHER ACTION</b> See paragraph 2 below
International application No. PCT/FI 2004/050048	International filing date (day/month/year) 22.04.2004
Priority date (day/month/year) 22.03.2003	
International Patent Classification (IPC) or both national classification and IPC C03B 37/014, C03B 37/075	
Applicant LIEKKI OY et al	

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

### 2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further opinions, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.  
PCT/FI 2004/050048

**Box No. I      Basis of this opinion**

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.  
☐ This opinion has been established on the basis of a translation from the original language into the following language \_\_\_\_\_, which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
  - a. type of material  
☐ a sequence listing  
☐ table(s) related to the sequence listing
  - b. format of material  
☐ in written format  
☐ in computer readable form
  - c. time of filing/furnishing  
☐ contained in the international application as filed.  
☐ filed together with the international application in computer readable form.  
☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/FI 2004/050048

**Box No. II    Priority**

1. ☒ The following document has not yet been furnished:

☒ copy of the earlier application whose priority has been claimed (Rules 43*bis*.1 and 66.7(a)).

☐ translation of the earlier application whose priority has been claimed (Rules 43*bis*.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43*bis*.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

WRITTEN OPINION OF THE  
INTERNATIONAL SEARCHING AUTHORITY

International application No.  
PCT/FI 2004/050048

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-5, 6-11	YES
	Claims		NO
Inventive step (IS)	Claims	1-5, 6-11	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-5, 6-11	YES
	Claims		NO

2. Citations and explanations:

Reference is made to the following documents:

D1: EP 539 198 A1  
D2: Patent Abstracts of Japan, abstract of JP 58-217447 A  
and JP 58-217447 A  
D3: EP 127 041 A1

Discussion.

The method for forming material layers inside a basic tube according to claim 1 comprises introducing alternating flows of first and second materials. The materials are electrically charged with mutually opposite signs. No external electric field is applied.

D1 and D2 disclose methods for forming layers outside basic tubes. Electrically charged materials are directed onto the tubes. In contrast to the present invention external electric fields are applied to support the deposition of material. D3 discloses a method of forming a layer inside a tube with the aid of a nozzle inside the tube in an external electric field. It is not obvious to combine the features stated in D1, D2 and D3 to arrive at the present method.

Present claim 6 defines an apparatus comprising features corresponding to the measures to be taken in the method according to claim 1.

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**Supplemental Box**

In case the space in any of the preceding boxes is not sufficient.  
Continuation of: BOX V

Consequently, the method and the apparatus according to the claims are novel and are considered to involve an inventive step. Industrial applicability is at hand.